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ferroelectric (antiferroelectric) transition

A transition from a ferroelectric to either another ferroelectric, or a paraelectric, or an antiferroelectric state. Example: The transition of the low-temperature, cubic paraelectric $BaTiO_3$ to the high-temperature, tetragonal, ferroelectric form at 393 K.

Notes:

1. In an antiferroelectric transition individual dipoles become arranged antiparallel to adjacent dipoles with the result that the net spontaneous polarization is zero.
2. Ferroelectric/antiferroelectric transitions also occur in the liquid-crystal state. These states are dependent on the alternating nature of dipoles between layers in the smectic state.

See: ferroic transition

Source:

PAC, 1994, *66*, 577 *(Definitions of terms relating to phase transitions of the solid state (IUPAC Recommendations 1994))* on page 582

